

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONSTRUCTION PERMIT

Permit No. 074CP01

Application Number X-147

March 11, 2003

The Department of Environmental Conservation (the department), under the authority of AS 46.14 and 18 AAC 50, issues a construction permit to the permittee, Alyeska Pipeline Service Company for permit revisions and increased fuel gas hydrogen sulfide content at Trans Alaska Pipeline System (TAPS) Pump Station 3.

This permit satisfies the obligation of the owner and operator to obtain a construction permit as set out in AS 46.14.130(a).

As required by AS 46.14.120(c), the permittee shall comply with the terms and conditions of this construction permit.

As set out in 18 AAC 50.340(i), this construction permit revises terms and conditions of Air Quality Control Permit to Operate No. 9572-AA010, issued March 4, 1996, last amended December 4, 1998.

[18 AAC 50.320(b), 1/18/97]

John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASTM	American Society of Testing and Materials
CEMS	Continuous Emission Monitoring System
C.F.R.	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
dscf	Dry standard cubic feet
EPA	US Environmental Protection Agency
gr/dscf	grain per dry standard cubic feet (1 pound = 7000 grains)
GPH	gallons per hour
HAPS	Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
H ₂ S	Hydrogen Sulfide
HHV	Higher heating value
ID	Source Identification Number
kW	kilowatts
MACT	Maximum Achievable Control Technology
Mlb	thousand pounds
MMBtu	Million British Thermal Units
NAICS	North American Industry Classification System
NESHAPs	Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 CFR 61]
NSPS	Federal New Source Performance Standards [as defined in 40 CFR 60]
NO _x	Oxides of Nitrogen
ppm	Parts per million
ppmv	Parts per million volume
PS	Performance specification
PSD	Prevention of Significant Deterioration
RM	Reference Method
SIC	Standard Industrial Classification
SO ₂	Sulfur dioxide
TPH	Tons per hour
TPY	Tons per year
VOC	volatile organic compound [as defined in 18 AAC 50.990(103)]
Wt%	weight percent

Section 1 Identification**Names and Addresses**

Permittee: Alyeska Pipeline Service Company
1835 South Bragaw St.
Anchorage, Alaska 99512

Facility: Pump Station 3

Location: Sections 8,9,16 & 17 T7S, R14E, Umiat Meridian

Physical Address: 112 Miles South of Prudhoe Bay, Alaska

Owner: Owners of the Trans Alaska Pipeline System

Operator: Alyeska Pipeline Service Company
1835 South Bragaw St.
Anchorage, Alaska 99512

Permittee's Responsible Official Jim F. Johnson. Or successor
Pipeline Manager

Designated Agent: CT Corporation System, Supervisor of Process/SP
801 West 10th St., Suite 300
Juneau, Alaska 99801

Facility and Building Contact: PS 3 Operations and Maintenance Supervisor
(907) 787-4305

Permitting Contact: Don Mark Anthony
P.O. Box 60469
Fairbanks, Alaska 99706
(907) 450-7652

Fee Contact: Tammy Martin
Environment Billing Administrator
P.O. Box 40469
Fairbanks, Alaska 99706
(907) 450-5535

SIC Code of the Facility: 4612 – Crude petroleum pipelines.
NAICS Code: 486110 – Pipeline transportation of crude oil.

Section 2 *Emission Information and Classification*

Emissions of Regulated Air Contaminants, as provided in permittee's application:

Oxides of Nitrogen (NO_x), Sulfur Dioxide (SO₂), Carbon Monoxide (CO), Particulate Matter, and Volatile Organic Compounds (VOC).

Construction Permit Classifications:

Note: Facility Classifications are described under 18 AAC 50.300(b) through (g), modification classifications are described under 18 AAC 50.300(h), and owner requested limits are described under 305(a)(1) through (4).

The permit revisions and increased fuel gas hydrogen sulfide content require a construction permit because:

- a. The facility is classified as a Prevention of Significant Deterioration (PSD) Major Facility under 18 AAC 50.300(c)(1), as the facility has a potential to emit more than 250 tons per year of NO_x and CO, and
- b. The permittee has requested under 18 AAC 50.305(a)(3), conditions that revise or rescind terms or conditions of a prior construction permit or permit issued under former 18 AAC 50.400.

[18 AAC 50.320(a)(2), 1/18/97]

Section 3 *Permit Continuity*

1. Except as revised or rescinded herein or as superseded by an Air Quality Permit issued under AS 46.14.170, the permittee shall comply with terms and conditions of Air Quality Control Permit to Operate No. 9572-AA010 last amended December 4, 1998.

2. Terms and Conditions of Permit No. 9572-AA010 are revised as follows:

- 2.1 Condition 19 is revised as follows

Permittee shall submit the results of the test, in the format set out in "Source Test Report Outline" (STRO), Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030, ~~(18 AAC 50.620)~~ to the department's Fairbanks Air Permit Office, Air Quality Maintenance Section, 610 University Avenue, Fairbanks, Alaska 99709-3643, within 60 ~~forty five (45)~~ days following completion of the set of tests.

- 2.2 Condition 20 is revised as follows

~~Process monitors as described by Exhibit C, shall be installed, operated, and maintained in accordance with 18 AAC 50.520.~~ Permittee shall install, use, and maintain the process monitors described in Exhibit C, "Process Monitoring Requirements." Permittee shall record the daily fuel consumption in each Avon gas generator, and the average daily speed, in RPM, of each Avon gas generator.

- 2.3 Condition 21 is revised as follows

~~Permittee shall conduct a quarterly test of the fuel gas to determine the sulfur (H_2S) content of the fuel gas burned at the facility and the lower heating value of the gas~~ The permittee or fuel supplier shall conduct a quarterly test, and on a change in the supply of fuel gas, and keep records of the test, to determine the sulfur (H_2S) content of the fuel gas burned at the facility as described in Exhibit C of this permit.

- 2.4 The terms of Conditions 23, 24, and 25 are rescinded and replaced by the terms of Condition 6, "Air Pollution Prohibited," Condition 7, "Monitoring, Recordkeeping and Reporting for Air Pollution Prohibited," and Condition 8, "Excess Emission and Permit Deviation Reports" of **Permit No. 074CP01**.

- 2.5 Exhibit B, Section G: "Fuel Quality," is revised as follows.

~~Natural Fuel Gas~~ not to exceed ~~34~~ 17 ppmv of hydrogen sulfide

- 2.6 Exhibit C "Monitored Source Installation and Reporting Requirements," is revised as follows.

Fuel Gas Determine the hydrogen sulfide content of the natural gas burned as fuel at least once per quarter, and on a change in the supply of fuel gas. A representative gas sample can be taken anywhere along the

fuel gas line. Acceptable methods for H₂S are ASTM D-4810-88, ASTM D-4913-89, and Gas Producers Association (GPA) method 2377-86 or a portable H₂S analyzer. The permittee may propose to the department an alternative monitoring plan. The alternative monitoring plan must satisfy the underlying purpose for this monitoring and 18 AAC 50.350(g) and (h).~~or upon a change in source of supply. Acceptable methods are ASTM D 4810 88, ASTM 4913 89, ASTM D 4929, and Gas Producers Association (GPA) method 2377 86 or a portable H₂S analyzer. Determine the Lower Heating Value using a calculational method, based on the quarterly fuel gas composition analysis.~~

- 2.7 Exhibit D, 4, "Fuel Quality," is revised as follows.
4. Fuel Quality: Report the concentration of H₂S in ppm and the Lower Heating value for the natural gas for the quarter. Include in the facility operating report a list of the H₂S content analysis results obtained during the reporting period, and any excess emission reports submitted in accordance with Condition 23 for exceeding the permitted fuel gas H₂S limit in Exhibit B, Section G, "Fuel Quality." Report the fuel gas H₂S concentration in (ppmv), of the fuel gas for the quarter and identify the analytical method. Report the liquid fuel sulfur content and indicate whether is was from a sample or based on the monthly analysis of the supplier.
- 2.8 The excess emission reporting procedures listed in Exhibit D, 5, "Excess Emissions," and 6, "Signature" are rescinded and replaced by the terms of Condition 6, "Air Pollution Prohibited," Condition 7, "Monitoring, Recordkeeping and Reporting for Air Pollution Prohibited," Condition 8, "Excess Emission and Permit Deviation Reports" and Section 6, "ADEC Notification Form" of **Permit No. 074CP01**.
- 2.9 If permit terms and conditions listed in this permit conflict with those of Permit No. 9572-AA010 the permittee shall comply with terms and conditions listed herein.

Section 4 Construction Permit Source Inventory

- 3. Authorization.** The permittee is authorized to operate the facility in accordance with the construction permit application as may be currently applicable. This permit authorizes the permittee to increase the fuel gas hydrogen sulfide (H_2S) content from 17 ppmv to 34 ppmv at Pump Station 3.

The facility equipment inventory is listed in Permit No. 9572-AA010, issued March 4, 1996.

Section 5 *Standard Construction Permit Conditions*

This section contains permit conditions for air quality construction permits adopted by reference in 18 AAC 50.346 (a) (1-3).

Standard Construction Permit Condition I--Emission Fees¹

- 4. Assessable Emissions.** The permittee shall pay to the department annual emission fees based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminant that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

- 4.1 the facility's assessable potential to emit of **1294.7** tpy; or
- 4.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by
 - a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
 - d. other methods and calculations approved by the department.

[18 AAC 50.346(a)(1)] 8/15/02

- 5. Assessable Emissions Estimates.** Emission fees will be assessed as follows:

- 5.1 no later than March 31 of each year, the permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates; or
- 5.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in Condition 4.1.

[18 AAC 50.346(a)(1)] 8/15/02

¹ Standard Permit Condition II has been modified from its original version. It has been modified to allow Alyeska to assess emissions from sources classified under 18 AAC 50.335 (q) through (v) under a one-time gross emission estimate.

- 5.3 The estimate of assessable emissions provided under paragraph 6.1 above may include a gross estimate of emissions for any insignificant sources defined under 18 AAC 50.335(q) through (v) located at the facility. Documentation is not required for subsequent submittals unless requested by the department.

[18 AAC 50.346(a)(1), 5/3/02 and 18 AAC 50.350(c) & 50.400 – 50.420, 1/18/97]

Standard Permit Condition II – Air Pollution Prohibited

6. **Air Pollution Prohibited.** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. (18 AAC 50.110)

[18 AAC 50.346(a)(2)] 8/15/02

7. Monitoring, Record Keeping, and Reporting for Air Pollution Prohibited.

- 7.1 If emissions present a potential threat to human health or safety, the permittee shall report any such emissions according to Condition 8, *“Excess Emissions and Permit Deviation Reports.”*
- 7.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the permittee shall investigate the complaint to identify emissions that the permittee believes have caused or are causing a violation of Condition 6, *“Air Pollution Prohibited.”*
- 7.3 The permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if
- after an investigation because of a complaint or other reason, the permittee believes that emissions from the facility have caused or are causing a violation of Condition 6; or
 - the department notifies the permittee that it has found a violation of Condition 6.
- 7.4 The permittee shall keep records of
- the date, time, and nature of all emissions complaints received;
 - the name of the person or persons that complained, if known;
 - a summary of any investigation, including reasons the permittee does or does not believe the emissions have caused a violation of Condition 6; and
 - any corrective actions taken or planned for complaints attributable to emissions from the facility.

7.5 With each facility operating report under Air Quality Control Permit to Operate No. 9572-AA010, the permittee shall include a brief summary report which must include

- a. the number of complaints received;
- b. the number of times the permittee or the department found corrective action necessary;
- c. the number of times action was taken on a complaint within 24 hours; and
- d. the status of corrective actions the permittee or department found necessary that were not taken within 24 hours.

7.6 The permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(2)] 8/15/02

Standard Permit Condition III – Excess Emissions and Permit Deviation Reports²

8. Excess Emissions and Permit Deviation Reports.

8.1 Except as provided in Condition 7, “*Monitoring Record Keeping, and Reporting for Air Pollution Prohibited*,” the permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report
 - (i) emissions that present a potential threat to human health or safety; and
 - (ii) excess emissions that the permittee believes to be unavoidable;
- b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology based emission standard;
- c. report all other excess emissions and permit deviations

² Standard Condition III has been modified from its original version. It has been modified to allow Alyeska to report an excess emission within 48 hours of discovering an excess emission rather than 48 hours of the excess emission occurring.

- (i) within 30 days of the end of the month in which the emissions or deviation occurs or was discovered, except as provided in Conditions 8.1c(ii); and
 - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under Condition 8.1c(i).
- 8.2 When reporting excess emissions, the permittee must report using either the department's online form, which can be found at www.dec.state.ak.us/awq/excess/report.asp, or, if the permittee prefers, the form contained in Section 6, ADEC Notification Form or the most recent version of the ADEC Notification Form available from the department. The permittee must provide all information called for by the form that is used.
- 8.3 When reporting a permit deviation, the permittee must report using the form contained in Section 6, ADEC Notification Form. The permittee must provide all information called for by the form.
- 8.4 If requested by the department, the permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

[18 AAC 50.346(a)(3)]

Section 6 ADEC Notification Form

(Standard Permit Condition IV – Notification Form)

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

Company Name_____
Facility Name**Reason for notification:**☐ **Excess Emissions***If you checked this box**Fill out section 1*☐ **Other Deviation from Permit Condition***If you checked this box**fill out section 2*

When did you discover the Excess Emissions or Other Deviation:

Date: __/__/__ Time:__:__

Section 1. Excess Emissions**(a) Event Information (Use 24-hour clock):**

	START Time:	END Time:	Duration
	(hr:min):		
Date: _____	_____:	_____:	_____:
Date: _____	_____:	_____:	_____:
		Total:	_____:

(b) Cause of Event (Check all that apply):☐ START UP☐ UPSET CONDITION☐ CONTROL EQUIPMENT☐ SHUT DOWN☐ SCHEDULED MAINTENANCE☐ OTHER _____*Attach a detailed description of what happened, including the parameters or operating Conditions exceeded.***(c) Sources Involved:***Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.*

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____

(d) Emission Limit Potentially Exceeded*Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.*

Permit Condition	Limit	Emissions Observed
_____	_____	_____
_____	_____	_____

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?

☐ YES ☐ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235?

☐ YES ☐ NO

Section 2. Other Permit Deviations**(a) Sources Involved:**

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(b) Permit Condition Deviation:

Identify each permit Condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation
_____	_____
_____	_____
_____	_____

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:

Signature:

Date:

Section 7 *Permit Documentation*

September 12, 2001	Letter from Don Mark Anthony (Alyeska) to Bill MacClarence (ADEC). Request for Revision or Revocation of Permit Terms: Taps Pump Station 3, Former 18 AAC 50.400 Permit No. 9572-AA010
January 23, 2002	Email from Don Mark Anthony (Alyeska) to Jim Baumgartner (ADEC). Request for reduced fuel gas H ₂ S sampling frequency.